

SUSTAINABILITY

Building a better tomorrow, today.



We always stay true to our purpose and use the UN Sustainable Development Goals (SDGs) as a framework to measure how we contribute to a safer and more sustainable world.



LR has a long-standing reputation for providing technical expertise and assurance to ensure businesses are safe, secure and sustainable. Our activity aligns with the UN SDGs, however we are focussed on the following eight goals:



We are committed to working with customers for resource-efficient, responsible and traceable supply chains and our profits are used to fund research into innovative sustainable food solutions.



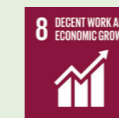
We recognise health in all its forms as a human right and we are committed to focussing on both health and well-being and the safety of our people and their families. We proactively promote healthy behaviours that in turn support good mental health and resilience.



We believe in diversity and inclusion at all levels within the organisation, and acknowledge the influence we can have at a systemic level within the engineering profession to redress the balance and make sure opportunity and reward is equal.



We recognise that radical innovation is needed to stay within the climate boundaries of the Paris Agreement, and are committed to helping the necessary transition from hydrocarbons to clean energy and working towards global carbon reduction targets.



We are committed to getting our people home safely to their families every day. We provide safe working environments and work to improve public safety using our influence to enhance safety standards wherever we are in the world.



We are committed to making supply chains more transparent and resource-efficient, providing real-time assurance and data-driven recommendations to drive efficiencies through reduced water usage, energy efficiencies and lean manufacturing.



We are dedicated to working with our clients to transition from fossil fuels to renewable sources of energy and jointly tackling the global challenge of climate change, steering our collective transformation to no carbon operating models.



Our efforts are focussed on helping to achieve the International Maritime Organisation's (IMO) target to decarbonise shipping by 2050. We are partnering with senior leaders in the maritime, energy, infrastructure and finance sectors in the Getting to Zero Coalition.

In 2018/19, we focussed our efforts primarily on three SDGs aligned to the UN's Action Platform for Sustainable Ocean Business. Please read below for our progress so far:



**Sustainable oceans
OCEAN TRANSPORT**

We achieve this by:

- Over 20,000 safety inspections on ocean-going vessels a year.
- Assessing fisheries on every continent and in 40 countries to the MSC Fisheries Standard.
- Zero-emission vessels research and publications to help understand the pathways to decarbonisation.
- Ship recycling facility assurance and transparency initiative (SRTI) to improve human and environmental health.
- Collaboration with Sustainable Shipping Initiative (SSI) and the Global Maritime Forum (GMF).

What we have achieved in 2018/19:

- Founding member of the UN's Action Platform for Sustainable Oceans Business, collaborating on development of the 'Principles of Sustainable Oceans Business'.
- Founding member of the Poseidon Principles to integrate climate considerations into lending decisions.



**Low-carbon energy
OCEAN ENERGY**

We achieve this by:

- Supporting the production of energy with zero or low-carbon emissions, including on/offshore wind, wave, nuclear, solar and energy storage.
- Risk management, engineering dynamics, and independent certification and verification services for offshore wind projects.
- Helping to develop and prove new low-carbon technologies using a *Technology Qualification* approach.

What we have achieved in 2018/19:

- Supported almost 100 projects that have a total generating capacity of 54 GW, more than the typical peak electricity demand for the UK.
- Clean Energy strategy in development.



**Resource efficient supply chains
OCEAN FOOD**

We achieve this by:

- Offering visibility and insight to our customers that enable them to develop safe, sustainable and transparent supply chains.
- Helping to improve efficiency and reduce costs of supply-chains, whilst maintaining compliance and being socially responsible.
- Assessing ISO standards and GHG reporting in particular – ISO 14001 / 14064 / 45001 / 50001.
- We are a globally listed Sedex Members Ethical Trade Audit (SMETA) provider delivering responsible sourcing audits worldwide.

What we have achieved in 2018/19:

- Providing assurance to 30% of top 150 retailers and producers.
- In the last 12 months – 50,000 audits, trained 100,000 internal auditors and food safety professionals.

As a signatory to the United Nations Global Compact principles we report annually via a Communications on Progress (COP) and are developing a framework and a methodology to track and assess our progress in 2019/20 as we continue to embed the SDGs and prioritise contribution.

Oceans: a key battleground in the fight against climate change.

LR has a long heritage of working with the oceans, dating back to our founding as a marine classification society in 1760. Today, our oceans have become a key battleground in the fight against climate change, as we seek to reverse the negative impacts on biodiversity, ecosystem health, critical habitats and coastal communities, and improve the sustainability of all ocean industries.

A recent report from the Intergovernmental Panel on Climate Change (IPCC) found that oceans have absorbed 93 per cent of the heat trapped by human-generated CO₂ emissions, and the UN predicts that this ocean acidification will cause serious consequences for marine life by the end of the century. Improving the health, cleanliness and productivity of the world's oceans is not just vital because they provide 50 per cent of the world's oxygen, or because three billion people's livelihoods depend on them, but because more sustainable oceans have been identified as a vital part of the solution for stopping climate change.

New work by the World Resources Institute (WRI) found that oceans could deliver up to 21% of the annual greenhouse gas (GHG) emissions cuts that the world needs by 2050 if a number of key opportunities for action are taken.



Robust assurance verification means you can visibly demonstrate that your business meets the safety, quality, social and environmental compliance requirements of both manufacturers and the public.

Polly Burns
LR Fisheries Manager

LR is already helping to deliver on these actions, according to Suzanne Johnson, Vice President, Corporate and External Affairs at LR. "A majority of our clients operate in the ocean transport, ocean food and ocean energy sectors. We view the ocean as a massive resource for sustainable development. Using our deep expertise and experience and enabled by innovative and novel technologies, our work to drive improvements in safety, resilience, assurance and sustainability across the oceans is already delivering against the WRI's actions to cut GHG emissions.

"We are partnering with highly influential organisations and institutions that are developing and supporting solutions for better ocean health and wealth. We are a founding member of the UN Global Compact Ocean Action Platform, on the Advisory Council of the Global Maritime Forum (GMF) and work with the Friends of Ocean Action."

Ocean transport

According to Katharine Palmer, Global Sustainability Manager, Marine & Offshore at LR: "Fully decarbonising the shipping sector is one of the world's biggest challenges; it has the potential to be the most disruptive transition that shipping has had to deal with."

LR is prioritising decarbonisation within the shipping and maritime sector, transitioning to a safe and more sustainable approach for the design, construction, operation and recycling of ships. Katharine explains: "We are partnering with a number of senior leaders in the maritime, energy, infrastructure and finance sectors in the Getting to Zero Coalition, which has the ambition of having commercially viable zero emissions vessels operating along deep sea routes by 2030."

LR is also playing its part to support the Sustainable Shipping Initiative's (SSI) vision for better social, environmental and economic impacts by 2040. This includes encouraging a system change so that sustainable performance is rewarded by the industry, which will encourage large-scale uptake of innovation, technology, design and operational efficiencies.

Ocean food

Aquaculture is the fastest-growing food-producing sector in the world. As Polly Burns, LR Fisheries Manager explains: "Consumers are increasingly looking for sustainable choices for seafood and fish farms now provide almost as much of our seafood as commercial wild fisheries.

"Robust assurance verification means you can visibly demonstrate that your business meets the safety, quality, social and environmental compliance requirements of both manufacturers and the public."

LR delivers assurance against Aquaculture Stewardship Council (ASC) and Marine Stewardship Council (MSC) certification, a signpost to retailers and consumers that producers are minimising the environmental and social impact of their activities, while meeting industry best practice. We are working to advance current practices in aquaculture, combining the in-depth knowledge and technical expertise of our marine, offshore and food specialist teams.

Ocean energy

With the energy transition in full swing, we are helping to remove the barriers to scaling up ocean-based energy sources, primarily offshore wind and supporting investment in new, innovative sources such as floating solar photovoltaics, wave and tidal power.

“Our clean energy strategy and commitment to offshore wind development is helping to improve the efficiency of both the production and use of energy,” says Tristan Chapman, LR’s Senior VP Renewables and Innovation.

“Our extensive sector knowledge, experience and networks are providing customers with a clear understanding of the offshore wind market, the regulatory regime and the business opportunity.”

Driven by developments in technology, the cost and risk of installation for offshore wind farms is lowering and offshore wind is subsequently getting cheaper, recently becoming cheaper than the wholesale price of energy in the UK for the first time. We are bringing cutting edge thinking to solve the issue of connecting the renewable energy generated with the rest of the grid.

The US is less mature in its offshore wind journey, and has huge ambitions to grow in the northeast of the country. LR is working closely with a large number of customers to create the necessary supply chain and building infrastructure to support sustainable offshore wind development and unlock the potential of this market.

LR is using its deep domain expertise to contribute to the shift towards hybrid energy solutions, including helping oil and gas operators to decarbonise their upstream production facilities and developing new ways to use existing infrastructure in order to reduce the huge cost and impact of decommissioning.

Leading the Blue Revolution

While land-based agriculture has been successfully industrialised over the past 10,000 years, the same has not been done for the ocean. Though 70 per cent of our planet is covered by the oceans, they contribute just five per cent of our food. Work to grow that figure has been termed the Blue Revolution.

LR’s contribution to the Blue Revolution includes developing a concept for ‘multi-use of the marine space offshore’, using existing wind farms and co-locating them with aquaculture food sources to industrialise food production at sea. This will help to ease the burden of population growth while simultaneously optimising the cost of offshore renewable energy production.

Suzanne is in no doubt about the huge opportunity for growth and development that the Blue Revolution provides. “Plant life, seaweed, shellfish and fish should all be considered viable alternatives to land-based protein sources. The WRI estimates that if just two per cent of the oceans – an area roughly the size of Australia – was dedicated to growing and producing seaweed as a food source, it would produce enough proteins for 12 billion people, with no need of animal or vegetal proteins,” she says.

“Our extensive sector knowledge, experience and networks are providing customers with a clear understanding of the offshore wind market, the regulatory regime and the business opportunity.”

Tristan Chapman
Senior VP Renewables and Innovation, Energy at LR

“Aquaculture does not need land, nor freshwater, nor fertilisers. Sustainable production practices, including moving away from fish-based foods towards those based on plant products, are required along with environmentally-sensitive developments which minimise impacts on coastal ecosystems.

“There are major challenges to overcome, such as ensuring the safety of the infrastructure and employees in areas that are hard to reach and monitor. The need to produce more food for burgeoning populations in a sustainable way more than justifies these efforts.”

“The WRI estimates that if just two per cent of the oceans – an area roughly the size of Australia – was dedicated to growing and producing seaweed as a food source, it would produce enough proteins for 12 billion people, with no need of animal or vegetal proteins.”

Suzanne Johnson
Vice President, Corporate and External Affairs at LR



“We remain fully committed to investing in changing this very real and very difficult problem for the shipping industry, thus providing owners with a destination for recycling their vessels in a safe and sustainable manner.”

Naeem Masani
YSI Recycling



CASE STUDY

Recycling ships, safely and securely. First fully compliant recycling facility in India.

The challenge

Dismantling ships is one of the most dangerous professions in the world, both for workers and the environment, with high levels of fatalities, injuries and work-related illnesses stemming mainly from hazardous materials on board.

The Hong Kong Convention for Safe and Environmentally Sound Recycling of Ships (HKC) and the EU Ship Recycling Regulation (EU SRR) now provide a framework to ensure that end of life ships are dismantled safely with minimum impact to human health and the environment.

The solution

In Alang we worked with our customer, Y.S Investments (YSI), to achieve a first in India: a Ship Recycling Facility that is fully compliant with the HKC and the EU SRR. Because of our guidance and ‘firm but fair’ approach carried out under LR’s Audit During Recycling (ADR) scheme, YSI renovated the whole facility to improve safety and environmental impact.

We are also the only class society involved in the Ship Recycling Transparency Initiative which aims to incentivise responsible ship recycling practices by the simple act of companies being transparent about their approach to recycling.

The result

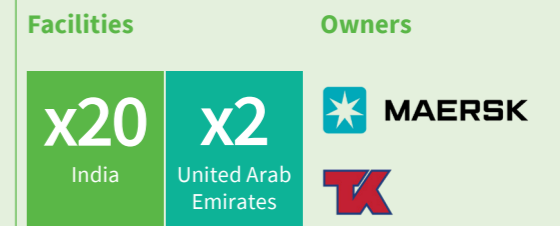
By using LR’s guidance, YSI made all its beach areas impermeable to avoid leaching of pollutants into land and water at the intertidal zone, built dormitories and health facilities for its workers, brought in cranes and lifting equipment to safely move large sections of ship, and they invested in training to effect the changes required of their management system and processes. After obtaining the Certificate towards Hong Kong Convention, YSI has responsibly recycled more than 40,000 Metric Tonnes of end-of-life vessels.

We’ve achieved

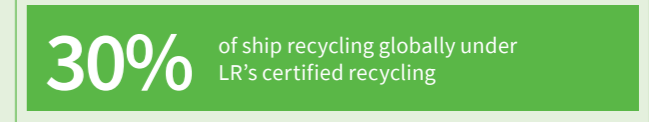
Between 2015 and 2019 we have worked with:



We are also the class society involved in the Ship Recycling Transparency Initiative which aims to incentivise responsible ship recycling practices.



Where we want to be





The IMO's target means ZEVs need to enter the world's fleet in 2030 and time is extremely tight to develop the necessary zero-carbon fuels and associated technologies to make this happen.



CASE STUDY

Decarbonisation of shipping – zero-emission vessels (ZEVs) and Poseidon Principles.

The challenge

Shipping accounts for 2.3% of global CO₂ emissions and in line with the temperature goals of the Paris Agreement, the International Maritime Organization (IMO) has set a target for shipping to achieve an absolute reduction in greenhouse gases (GHG) of at least 50% by 2050; this equates to around 85% reduction in carbon intensity.

Ships are highly capital-intensive assets with typical operating lives of 20-30 years, longer for some ship types. The IMO's target means ZEVs need to enter the world's fleet in 2030 and time is extremely tight to develop the necessary zero-carbon fuels and associated technologies to make this happen.



Fully decarbonising the shipping sector is one of the world's biggest challenges; it has the potential to be the most disruptive transition that shipping has had to deal with.

Katharine Palmer
Global Sustainability
Manager, Marine &
Offshore at LR

The solution

While there are energy efficiency improvements available now to help move us towards this goal, they will not be enough to achieve it fully. A transition from fossil fuel-based operating models is essential and, the longer we leave it, the more disruptive it will be.

This is why we have, in collaboration with University Maritime Advisory Services (UMAS), published a series of reports on zero-emissions, looking at fuel and technology trends for the marine industry, identifying milestones for the safety, technical, social, economic and environmental aspects of the potential ZEVs.

The result

Aimed at developing new knowledge and tools that can contribute to policy debate, we have shared this cutting-edge research to encourage a broader understanding of global issues that affect the marine industry and their impact e.g. Low Carbon Pathways 2050 and ZEVs 2030 reports.

We are also supporting incentivisation and innovation across the industry as the sole classification society involved in the Poseidon Principles, an initiative led by a group of the major banks designed to encourage lending decisions that promote global decarbonisation of shipping. The 11 founding signatories represent a bank loan portfolio of approximately \$100 bn and around 20% of global ship finance.